Panorama on competitiveness, financing capacities and training of personnel in companies of the Food sector dedicated to the production of dairy products in Cajeme, Sonora

Panorama sobre competitividad, las capacidades de financiamiento y capacitación del personal en empresas del sector Alimentos dedicadas a la producción de productos lácteos en Cajeme, Sonora

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Abstract

Objetive. The objective of this research is to visualize the panorama on competitiveness, the financing capacities and training of personnel in companies in the food sector dedicated to the production of dairy products in the municipality of Cajeme for the detection of areas of opportunity that increase their possibilities of permanence in the market.

Methodology. The research to be carried out is of a mixed nature, that is, it requires descriptive statistics for the qualitative results and inferential statistics for the correlation of the variables. The structural equations method is used with the SMART PLS4 software. The independent variables (financing capacities and personnel training) and the dependent variable (competitiveness) are established. The instrument used was adapted from the INEGI 2018 National Survey on Productivity and Competitiveness of Companies.

Contribution. Statistically significant evidence was found that access to financing and receiving training to improve staff performance increase the competitiveness of companies. The variable of access to financing being more significant than that of training.

Competitiveness, Financing Capacities, Training

Resumen

Objetivo. El objetivo de esta investigación visualizar cual es el panorama sobre competitividad, las capacidades de financiamiento y capacitación del personal en empresas del sector alimentos dedicadas a la producción de productos lácteos en el municipio de Cajeme para la detección de áreas de oportunidad que incrementen sus posibilidades de permanencia en el mercado.

Metodología. La investigación a realizar es de carácter mixto, es decir requiere de estadística descriptiva para los resultados cualitativos e inferencial para la correlación de las variables. Se utiliza el método de ecuaciones estructurales con el software de SMART PLS4. Se establecen las variables independientes (capacidades de financiamiento y capacitación del personal) y la variable dependiente (competitividad). El instrumento utilizado fue adaptado de la Encuesta Nacional sobre la Productividad y Competitividad de las Empresas del INEGI 2018.

Contribución. Se encontró evidencia estadísticamente significativa sobre que el acceso a financiamientos y el recibir capacitaciones para mejorar el desempeño del personal incrementan la competitividad de las empresas. Resultando la variable de acceso a financiamiento más significativa que la de capacitación.

Competitividad, Capacidades de Financiamiento, Capacitación

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Introduction

Derived from the financial uncertainty with which the average Mexican entrepreneur operates (Hernandez and Jimenez, 2018), rooted in different ways in which they carry out the operation of their (family) businesses, it is necessary to create spaces for research that facilitate their decision-making, that is, to generate information that allows them to lessen the damage of uncertainty. This is why this proposal aims to apply an instrument on competitiveness, financing capacities and personnel performance in food sector companies dedicated to the production of dairy products in the municipalities of Cajeme in order to detect areas of opportunity that will increase their chances of remaining in the market in the medium and long term.

In publications by Álvarez, M. (2009) in the preparation of the report for the Economic Commission for Latin America and the Caribbean (ECLAC) on Micro, small and medium-sized enterprises (MSMEs), it is mentioned that this type of organisation constitutes 90% of the business structure and has a contribution to GDP that ranges from 20% to 50%. Likewise, they stimulate capacities, increase employment possibilities and favour the conditions to achieve a reduction in the social backwardness generated by poverty.

Similarly, in research conducted by Orueta, Echagüe, Bazerque, Correa, García, García and Rodríguez (2019) found that particularly in Latin America, small and medium-sized enterprises contribute around fifty percent of the Gross Domestic Product; of the one hundred percent of existing companies, around ninety percent belong to this category. In terms of employment, it is estimated that they employ between fifty and seventy-five percent of the total number of employees.

The central problem of the research is to determine to what extent the competitiveness of the enterprises (micro, small and medium-sized) is affected by the performance of the personnel and the financing capacities.

This problem has been addressed by different authors who mention that training staff, obtaining financing (level of financing) but with knowledge of its management, information systems, continuous improvement, have increased the profitability of the business, influencing sustained growth and competitiveness (Siccha, 2017; Luciani and Navarro, 2018; Coz, 2019).

This is why it arises from the need to link academia with the productive and public sectors, in order to address the needs that afflict them. This problem has been raised by the National Strategic Programmes (CONACYT, n.d.). In the same way, the aim is to increase the possibilities of success through key variables within the organisation. As a member of the university community, it is a social responsibility to contribute with actions that facilitate the systematisation of knowledge in order to subsequently move on to its implementation (Ruiz, Mellado and Landazuri, 2021).

Based on the previous paragraph, the following hypotheses are to be tested:

H1 Financing capabilities in micro and small enterprises positively impact competitiveness.

H2 Staff training in micro and small enterprises has a positive impact on competitiveness.

This is why the following general objective of the research is elaborated: To determine to what extent the financing and personnel training capacities of companies in the food sector dedicated to the production of dairy products in the municipality of Cajeme have an impact on competitiveness, in order to detect areas of opportunity that increase their possibilities of remaining in the market.

The structure of this article is divided into six sections. The first section begins with an introduction, presenting the background, the problems identified, the hypotheses to be tested and the objective to be achieved through the development of the research. In section two, the theoretical framework is developed, in this section the study variables and the theoretical underpinning that supports it are presented.

The research methodology is presented in section three. The subjects of the study, the design of the instrument, the methodology used to test the hypotheses are established. Section four presents the main results obtained, and then proceeds to section five: the conclusions. This section shows the main inferences obtained through the proposed model and finally, the bibliographical references used in the development of the article are listed.

Theoretical framework

For the present research, three variables were detected, which will be the object of study. Firstly, the independent variable X1 Financing Capacities: this variable is related to how organisations have structured their financial information in order to be eligible for credit. Since formal financial institutions ask for certain requirements to be eligible for credit, micro and small enterprises have to have verifiable information on their performance in order to be eligible for different formal financing options.

In publications by Valles (2021), he mentions that the main requirements to be eligible for credit are the following: registration with the Tax Administration Service, incorporation certificate, tax identification card, at least six years of invoicing, Confidential Electronic Identification Code, official identification, favourable credit bureau record, proof of address and, above all, various financial statements to prove the economic solvency of the organisation.

In research conducted by Gutierrez (2019), he mentions that although Mexico has modernised its banking system, there is a paradox regarding the exclusion of lower-income sectors, since the beneficiaries have been mainly large corporations. From this, it can be inferred that there is a gap in which small and medium-sized entrepreneurs are not subject to credit and have to resort to different credit options (family, friends, informality, among others).

The second independent variable is X2 staff training. According to Changuán (2020), he mentions that this construct becomes one of the pillars for the organisation, since qualified personnel generate a greater bond of commitment; they also offer, through their own experiences, proposals for improvements to the services they offer, "know how" of the activities they carry out, thereby raising the levels of innovation and competitiveness, which are attributes that are increasingly appreciated in economic environments.

Likewise, Bohórquez, Caro and Morales (2017) point out that trained personnel significantly reduce several of the errors that are made in the production and sale of products and services, thereby mitigating the main operational failures. Also, Bonilla, Macero and Mora (2018) have alluded that staff with little training substantially affect the organisational climate, in addition to the obsolescence of carrying out processes or the lack of orientation produces a lower competitiveness in the entities.

Continuing with the variables, the third Y1 Competitiveness is presented. Nowadays, organisations face increasingly complex market conditions, having to stand out with differentiators over the rest of the competitors. The Mexican Government website (2023) mentions that competitiveness can be defined as the relationship that exists between the income received by one organisation with respect to another. Variables such as economic growth generated, job creation and investment promotion can also be incorporated, depending on the perspective being sought.

In publications by Acosta-Medina, Plata-Gómez, Puentes-Garzón and Torres-Barreto, (2019) mention that business competitiveness is the ability of organisations to achieve an increase or consolidation in the market, so that they have to develop the particular attributes of the services they offer to achieve significant differentiators. For this reason, Silva, Barrientos and Díaz (2010) point out that communication strategies must be assertive in order to increase business competitiveness.

Methodology

The research to be carried out is of a mixed type; descriptive statistics will be used to characterise the phenomenon and inferential statistics will be used to make correlations between variables and predict possible behaviours. Similarly, the quantitative approach will be used for the collection and schematization of the information, as well as the qualitative approach to determine the characterisation of the subjects under study.

To access the information, an instrument was designed based on the National Survey on Productivity and Competitiveness of Enterprises (ENAPROCE, 2018) and for the calculation of the sample, the population data provided by the National Institute of Statistics and Geography through the National Statistical Directory of Economic Units (DENUE, 2022) will be used.

For data processing, SPSS and SAMRTPLS4 were used to determine the content validity criteria, as well as the correlations and significance of the variables.

The subjects of the study will be companies in the dairy food sector in the municipalities of Cajeme that have between 0 and 10 employees in their hiring schemes. Likewise, the database of the National Statistical Directory of Economic Units (DENUE, 2022) will be considered as input. This database includes 41 organisations that meet these characteristics (it should be noted that at the time of the survey some companies were no longer in force and it was decided to survey others with similar characteristics). Of the total population, a response rate of 73% was achieved, i.e. 30 companies.

Results

In terms of descriptive statistics, it was found that 87% are registered as natural persons and the rest as legal entities. Regarding the start of operations, it was found that the longest-lived company started in 1961 and the most recent was in 2020. The year in which the most companies of this type were opened was 2016. Graph 1 shows that most of the entrepreneurs obtained their resources to start operations through their own resources or support from family members:
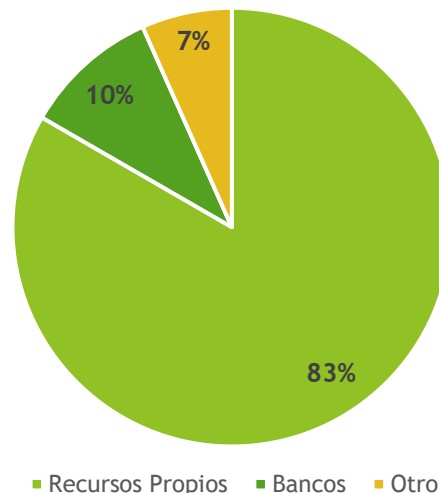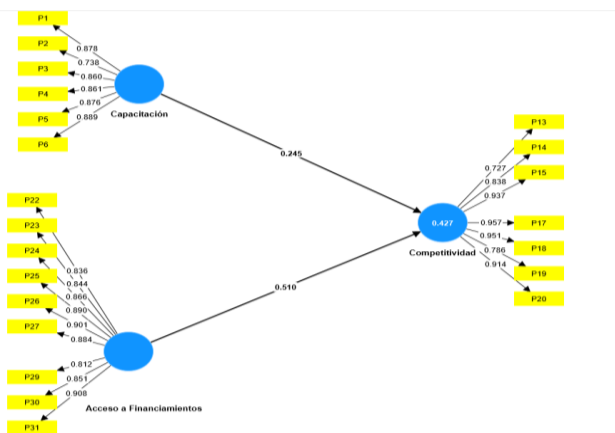

Graphic 1 Obtaining resources
Source: Own elaboration, 2023

With regard to the motivation for starting the business, the following was found: most of the respondents answered that it was to improve the family income or to complement it and to achieve independence, with both options accounting for 57% of the total:
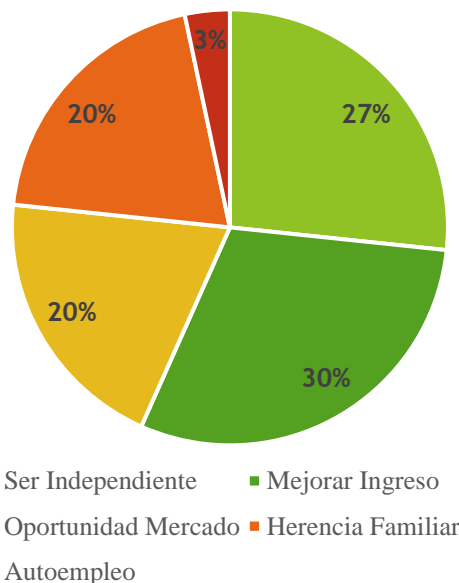
Graphic 2 Motivation for starting the business
Source: Own elaboration, 2023

The SMARTPLS4 software was used for the variables, as it was a small sample and due to the nature of the study, this system was chosen and the following model was obtained. The following is the graphic model elaborated with the independent and dependent variables:

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Figure 1 Graphical model
Source: Own elaboration with SMARPLS4, 2023

As for the Beta coefficients and collinearity statistics, it was found that both variables maintain a parameter higher than 0.20, which indicates that they have good inference in the model, and it was also determined that the access to finance variable has a greater impact on competitiveness. The collinearity statistics show that since the data are less than 5, there is no collinearity problem. The results are shown in the table below 1:

Variable	Coeficiente Beta	Estadísticos Colinealidad (VIF)
Access to finance-Competitiveness	0.510	1.221
Training-Competitiveness	0.245	1.221

Table 1 Beta coefficient and VIF
Source: Own elaboration with SMARPLS4, 2023

Regarding the R2, a value of 0.427 was obtained (moderate to weak) and according to the acceptance criteria indicated by Hair, Ringle and Sarstedt (2011), the R2 classifies it with the following values: 0.75 substantial, 0.5 moderate and 0.25 weak. Therefore, 43% of competitiveness is explained by staff training and access to finance.

In terms of hypothesis testing, it was found that financing and personnel training capabilities in micro and small enterprises positively impact competitiveness as the relationships were found to be statistically significant with a reliability value of 95% and also approved with the T-statistics higher than 1.76. Table 2 shows the results obtained:

Hypothesis	P value	T statistician	Result
H1 Financing capabilities in micro and small enterprises positively impact competitiveness.	0.000	5.004	Accepted
H2 Staff training in micro and small enterprises positively impacts competitiveness.	0.040	2.057	Accepted

Table 2 Hypothesis testing
Source: Own elaboration with SMARPLS4, 2023

Conclusions

Companies need to take different actions that differentiate them from their competitors in order to capture the market in which they operate. That is why having trained personnel and access to financing options can help them to prolong their permanence in the market. Similarly, evidence has been found that the use of advanced technologies such as artificial intelligence favours the conditions of knowledge exchange and thus the optimisation of resources (Vargas, Orozco, García, Ayala and Serrano, 2023).

The present research found that there is statistically significant evidence that financing capabilities and personnel training in micro and small enterprises have a positive impact on competitiveness. This was proven by significance tests at less than 5% error with p-values and Beta coefficients with a positive sign. This is in line with Changuán (2020) and Bohórquez, Caro and Morales (2017).

Therefore, it can be affirmed that the competitiveness of a firm is affected by the performance of its financing capabilities and staff training, the most relevant according to the Beta coefficient being the former with a value of 0.5. This inference is being explained with an R2 of 0.427, which indicates that there are other variables that affect competitiveness and are not being contemplated in this model, which represents an area of opportunity.

It is also important to note that the government must intervene in facilitating the conditions for building a better future, as it has been observed that the climate change factor has been detrimental to the performance of organisations in developing countries. This will be achieved by thinking about how to deal with these consequences in the medium and long term (Simmons and Simmons, 2023).

It is also important to point out that the strengthening of companies, relating them to investment and collaboration with other economic entities (even from other countries such as the members of the European Union) permeates into the improvement of the economic conditions of both organisations and employees. This is intended to reduce the backwardness caused by inequality, food security, among others (ECLAC, 2023).

Finally, it is necessary to mention that linking academia with society in the solution of real problems helps to address the economic lags that have been generated over time, reducing the uncertainty of the decisions taken by entrepreneurs in the sector under analysis. For future research, it could be recommended to investigate whether in other contexts, for example, another sector, the same behaviour would be observed or whether there are significant differences.

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